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| 09/297,399      | 04/29/99    | MIYAMOTO             | M 3404/0F546-U      |

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EXAMINER

SHOSHO, C

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1714     | 10           |

DATE MAILED:

08/02/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

# Office Action Summary

Application No.  
09/297,399

Applicant(s)  
Miyamoto

Examiner  
Callie Shosho

Group Art Unit  
1714



☒ Responsive to communication(s) filed on Jun 2, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 1-4 is/are pending in the applicat

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-4 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 8

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit: 1714

**DETAILED ACTION**

1. All outstanding rejections except for those described below are overcome by applicants amendment filed 6/2/00.

It is noted that this office action is non-final due to the application of new references, WO 95/10571 and JP 6346014, against the present claims

**Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 6346014.

Before setting forth the rejection, it is noted that an English translation of JP 6346014 is included in the office action.

JP 6346014 discloses a water based ink composition for ball-point pens which comprises pigment, polar solvent comprising water and other solvent (such as ethylene glycol), pH controlling agent, and 0.01-10 wt.% thickener which swells in an alkaline medium resulting in an increase in the viscosity of the ink. The thickener contains both a hydrophobic group and a

Art Unit: 1714

carboxyl group (claim 1, page 4, line 23-page 5, line 4, page 5, lines 12-13, page 7, lines 5-14, page 7, line 24-page 8, line 5, and page 8, lines 9-10).

In light of the above it is clear that JP 6346014 anticipates the present claims.

**Claim Rejections - 35 USC § 103**

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. (U.S. 5,580,374) either alone or in view of Doolan et al. (U.S. 5,425,806) and Shay et al. (U.S. 5,478,602).

The rejection is adequately set forth in paragraph 5 of the office action mailed 3/2/00, Paper No.7, and is incorporated here by reference.

6. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. either alone or in view of Doolan et al. and Shay et al. as applied to claims 1-2 above, and further in view of either Kobayashi et al. (U.S. 4,822,417) or JP54138732.

The rejection is adequately set forth in paragraph 6 of the office action mailed 3/2/00, Paper No.7, and is incorporated here by reference.

Art Unit: 1714

7. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 6346014 in view of either Kobayashi et al. (U.S. 4,822,417) or JP54138732.

The disclosure with respect to JP 6364016 disclosed in paragraph 3 above is incorporated here by reference.

The difference between JP 6346014 and the present claimed invention is the requirement in the claims of a pigment surface treated with a resin and/or surfactant.

Kobayashi et al., which is drawn to a writing ink composition, discloses the use of pigments surface treated with resins. The motivation for using such pigments is that they are preferred for their dispersability, stability, and workability (col.2, lines 26-33).

Alternatively, JP54138732, which is drawn to a writing ink composition, discloses the use of pigments surface treated with resin. The motivation for using such pigments is that impart excellent stability and water-resistance to the ink compositions. It is noted that an English translation of JP 54138732 is included in the present office action.

In light of the motivation for using a surface-treated pigment disclosed by either Kobayashi et al. or JP54138732 as described above, it therefore would have been obvious to one of ordinary skill in the art to use this type of pigment in the ink of JP 6346014 in order to produce an ink that has excellent dispersability, stability, and water-resistance, and thereby arrive at the claimed invention.

Art Unit: 1714

8. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 95/10571 in view of *Hawley's Condensed Chemical Dictionary*.

WO 95/10571 disclose a water-based ink composition for ball-point pens which contains pigment, pH controlling agent, i.e. base, 1-5% pH dependent or associative thickener which swells in an alkaline medium and increases the ink viscosity, and solvent comprising water and oil (page 2, lines 4-10, page 3, lines 6-12, page 3, line 28-page 4, line 1, and page 6, lines 11-2).

The only deficiencies of WO 95/10571 are that (a) there is no explicit disclosure that the thickener comprises a carboxyl group and a hydrophobic group and (b) there is no explicit disclosure that the oils disclosed are polar solvents.

With respect to difference (a), it is disclosed that the thickener includes acrylic resin. It would have been obvious to one of ordinary skill in the art that acrylic resins contain both hydrophobic acrylic backbone as well as carboxyl group and thus meets the limitation of claim 1.

With respect to difference (b), there is no explicit disclosure that the solvents disclosed by WO 95/10571 are polar. However, water is a well known polar solvent. Further, it is disclosed that the oils include linseed oil which is polar due to the presence of  $\overset{\text{O}}{\parallel}\text{C}$  group. Evidence to support the position that the oils disclosed in WO 95/10571 are polar is found in *Hawley's Condensed Chemical Dictionary* (pages 319 and 702) which discloses that the oils disclosed by WO 95/10571, i.e. linseed oil and cottonseed oil, are soluble in polar solvents such as chloroform. It therefore would have been obvious to one of ordinary skill in the art that in order for the oils to be soluble in a polar solvent, that the oils themselves must be polar.

Art Unit: 1714

In light of the above, it would have been obvious to one of ordinary skill in the art that the thickener of WO 95/10571 intrinsically contains hydrophobic group and carboxyl group as presently claimed and that the oils are indeed polar solvents, and thus, one of ordinary skill in the art would have arrived at the claimed invention.

9. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 95/10751 as applied to claims 1-2 above, and further in view of either Kobayashi et al. (U.S. 4,822,417) or JP54138732.

The difference between WO 95/10751 and the present claimed invention is the requirement in the claims of a pigment surface treated with a resin and/or surfactant.

Kobayashi et al., which is drawn to a writing ink composition, discloses the use of pigments surface treated with resins. The motivation for using such pigments is that they are preferred for their dispersability, stability, and workability (col.2, lines 26-33).

Alternatively, JP54138732, which is drawn to a writing ink composition, discloses the use of pigments surface treated with resin. The motivation for using such pigments is that impart excellent stability and water-resistance to the ink compositions. It is noted that an English translation of JP 54138732 is included in the present office action.

In light of the motivation for using a surface-treated pigment disclosed by either Kobayashi et al. or JP54138732 as described above, it therefore would have been obvious to one of ordinary skill in the art to use this type of pigment in the ink of WO 95/10751 in order to

Art Unit: 1714

produce an ink that has excellent dispersability, stability, and water-resistance, and thereby arrive at the claimed invention.

**Response to arguments regarding 103 rejections**

10. Applicant's arguments have been fully considered but they are not persuasive.

Specifically, applicant argues that:

(a) thickeners disclosed by Okumura et al. are not associative thickeners.

(b) The ammonium salt of styrene-maleic acid in the examples of Okumura et al. is a dispersant not a thickener.

(c) Comparative data in present invention discloses that polyacrylic acid thickeners such as those disclosed by Okumura et al. are inferior to the dispersants presently claimed.

(d) Doolan et al. and Shay et al. do not describe the use of associative thickeners in ink compositions.

(d) Kobayashi et al. is drawn to oil based ink composition.

With respect to difference (a), applicant argues that the thickeners disclosed by Okumura et al. are not associative thickeners, i.e. do not swell in an aqueous medium. However, given that the thickener disclosed by Okumura et al. is identical to that present claimed, i.e. contains hydrophobic group and carboxyl group, and the ink composition disclosed by Okumura et al. is identical to that presently claimed, it is natural to infer, absent clear and convincing evidence to



Art Unit: 1714

the contrary, that the thickener of Okumura et al. would function the same as the thickeners presently claimed. Support for this position of inherency of properties is found in Titanium Metals Corp. V. Banner, 227 USPQ 773 (Fed. Cir. 1985) where the court held that in comparing claimed and reference compositions it was immaterial what properties the compositions had or who discovered the properties of the compositions because "the composition is the same and thus must necessarily exhibit the properties" and In re Spada, 15 USPQ 2d 1655, 1658 (Fed. Cir. 1990), "products of identical chemical composition can not have mutually exclusive properties" and "a chemical composition and its properties are inseparable".

Further evidence to support the position that the thickeners disclosed by Okumura et al. intrinsically function as associative thickeners is found in Doolan et al. and Shay et al. which disclose that thickeners of the type disclosed by Okumura et al., i.e those containing hydrophobic group and carboxyl group, do indeed function as associative thickeners.

With respect to difference (b), Okumura et al. discloses the use of dispersants which are water soluble polymers such as salts of styrene-maleic acid copolymers (col.5, line 13) and thickeners such as alkali salts of copolymers of styrene and maleic acid (col.6, lines 26-27). Example 2 of Okumura et al, for instance, discloses the use of ammonium salt of styrene-maleic acid resin.

Applicant argues that the ammonium salt of styrene-maleic acid resin in the example is a dispersant and not a thickener. However, in light of Okumura et al.'s disclosure as described

Art Unit: 1714

above, it is clear that the ammonium salt of styrene-maleic acid resin can function both as a dispersant and a thickener. If for arguments sake, it is assumed that the resin disclosed in example 2 functions as a dispersant only and not a thickener, it would still have been within the skill level of one of ordinary skill in the art to determine how much thickener to add to the ink composition in order to produce an ink which does not clog the pen tip (viscosity too high) and does not lose adequate flow control (viscosity too low). Evidence to support this position is found in WO 95/10571 which discloses the use of 1-5 wt.% thickener in order to effectively thicken a ball-point pen ink composition.

With respect to difference (c), applicant points to comparative data, specifically, comparative example 3 of the present invention to illustrate that use of polyacrylic acid thickener, a thickener disclosed by Okumura et al., does not result in an ink composition having favorable physical properties as compared to thickeners of the present invention.

However, this comparative example is not persuasive in light of the disclosure on page 9, lines 19-20 of the present specification that polymers which are suitable for use as thickeners in the present invention include polyacrylic acid. From this disclosure, it is clear that Okumura et al. discloses a thickener which is indeed suitable for use as an associative thickener in the present invention.

Art Unit: 1714

With respect to difference (d), it is noted that col.13, line 10 of Shay et al. and col.1, line 29 of Doolan et al. discloses that associative thickeners are suitable for use in inks.

With respect to difference (e), it is noted that Kobayashi et al. is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely that surface treated pigments are used in ink compositions found in writing instruments, and in combination with the primary reference, discloses the presently claimed invention.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie Shosho whose telephone number is (703) 305-0208. The examiner can normally be reached on Monday-Thursday from 7:00 am to 4:30 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3599.

Art Unit: 1714

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

CS

Callie Shosho

7/28/00

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